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COST-EFFECTIVENESS OF A EUROPEAN COMMUNITY-BASED INTERVENTION: "10.000 STEPS GHENT"

Objectives: Physical inactivity is linked with inverse health effects and chronic disease. The aim of this study was to evaluate the cost-effectiveness of the European community-based project "10,000 Steps Ghent". A published comparative controlled trial showed that the intervention resulted in a significant decrease in sedentary time and a significant increase in step counts (896 steps/day) and self-reported walking time (66 minutes/week).

Methods: A Markov-model, with a time horizon of 20 years and a cycle length of 1 year was designed in Excel to estimate the development of diabetes, cardiovascular events and colorectal cancer. All individuals start in a health state free of events. The model transitions were age dependent and based on epidemiological data. The effect of the intervention was based on published relative risk reductions (RRR) related to increased walking time. Costs (from a public payer perspective) and utility decrements related to events were obtained from published literature. To assess the impact of the uncertainty of the parameters on incremental costs and QALYs one way sensitivity analyses and a Monte Carlo analysis were performed.

Results: Implementing the community based programme increased average QALYs with 0.14 to 12.50 QALY and decreased the total costs with approximately 490€ to 2749€. Hence the intervention programme was dominant. One way sensitivity analyses indicated that relative risk reductions had the most pronounced effect on the incremental QALYs and costs, however without changing the conclusion of dominance. The results of the Monte Carlo analysis were favourable as well and the intervention, based on 5000 simulations, remained dominant.

Conclusion: The community-based '10.000 Steps Ghent' campaign is a dominant intervention. Sensitivity analyses have proved the robustness of the results, hence implementing this intervention on a population based level could lead to improved health outcomes and reduced costs.